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December 2006
Working Paper 06-09

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ABSTRACT

With the increase in online shopping by consumers, impulse buying on the Internet becomes a quite common buying behavior. Based on the Beatty and Ferrell's (1998) model of impulse buying, this study proposes and empirically testes a model to explain impulse buying behaviors on the Internet.

JEL Code: M31

Keywords: Impulse buying, Internet

Impulse Buying Behaviors on the Internet

Introduction

While impulse buying in the traditional shopping context is pervasive (Rook 1987; Bellenger, Robertson, and Hirchman 1978), its occurrence on the Internet is beginning to be examined. It is believed that buying on the Internet has a tendency to be planned and rational. That is, consumers are portrayed as thinking problem solvers who are actively searching for products or services that fulfill their needs (Gupta and Chatterjee 1997). In fact, majority (52%) of online buyers purchase from the Internet only after much information search and comparison (Ernst and Young 1999).

Many literatures also point out that the Internet is a hotbed of information for consumers to uncover and use in their buying decision-making process (Alba, Lynch, Weitz and Janiszewski 1997). This is especially true since search engines have become better at generating more hits with increased relevance, thereby making comparison easier. Such easiness empowers consumers with the ability to extract the exact information that they need for their purchase decisions. As such, it is natural to observe that many surfers buy after much planning and consideration.

However, we feel that there may be a possibility that buying without much planning and consideration about consequences (i.e., impulse buying) is likely to occur on the Internet. This conjecture seems rather counter-intuitive and unfounded, but it is not necessarily groundless. Surveys done by consulting firms have shown that numerous people buy impulsively on the Internet (FreeRide Media, 1st August 1998). In fact, 83% of surfers have made an impulse purchase on the Internet (Robert 1998). Many studies also found evidences of

impulse buying behaviors on the Internet (Donthu and Garcia 1999; Kacen 2003; Madhavaram and Laverie 2004)

As such, impulse buying can be a significant buying behavior on the Internet as opposed to the popular belief that the Internet is used for planned and carefully deliberated purchases. Given that there has been no formal academic study done on this phenomenon, little is known about how consumers experience the urge to buy impulsively on the Internet. Therefore, it will be opportune to conduct an exploratory research on this topic to bridge this research gap (Deshpande 1983; Kaplan 1964).

Since impulse buying occurs on the Internet, it is our intention to uncover the factors affecting consumers to act in this way. Drawing from literature on impulse buying in the traditional shopping context, we propose that the fundamental antecedents of impulse buying are similar for the two arenas. This is inline with many authors' belief (Peterson, Sridhar and Bart 1997) that many insights gained from investigating conventional retail markets can be applied to marketing analyses on the Internet. In addition, other factors that are especially related to shopping on the Internet will also be explored. Based on theories of impulse buying under the traditional shopping context, the objective of this paper is to develop and test a model of impulse buying on the Internet.

BACKGROUND

Impulse Buying Behavior

Impulse buying behavior was first examined by Du Pont Company in 1945. It was then defined only as unplanned purchasing. Stern (1962) further classified impulse buying into 4 distinct categories of pure, reminder, suggestion, and planned impulse buying. Pure impulse buying refers to a novelty or an escape purchase that breaks a normal buying pattern, while

reminder impulse buying refers to buying when a shopper sees an item and remembers that the stock at home is exhausted. Suggestion impulse buying refers to buying when a shopper sees a product for the first time, and visualizes a need for it though there is no previous knowledge of it. Lastly, planned impulse buying refers to buying when a shopper enters a store with a specific purchase in mind but has intentions to make other purchases.

In general, most definitions of impulse buying include several common elements. These elements are: a) little or no planning, b) sudden and spontaneous desire or urge to buy something immediately or "on the spot", c) the presence of a heightened emotional state, and d) a reduction in cognitive evaluation and reduced consideration for the consequences of impulse buying (Wood 1998; Piron 1991; Rook 1987; Hausman 2000). In this study, impulse buying is defined as a sudden and instantaneous purchase with little or no planning. The behavior occurs after experiencing an urge to buy and it tends to be spontaneous and without a lot of consideration about its consequences.

Impulse Buying Behavior under Traditional Shopping Context

Earlier studies on impulse buying explain that impulse buying occurs as a result of exposure to in-store stimuli (Kollat and Roland 1969; Stern 1962). These in-store stimuli are created by marketers' manipulation of store environment or store-based other factors such as atmospherics, displays, products, customer service, and promotional activities (Bellenger and Korganonkar 1980; Kollat and Roland 1969).

Later, Rook (1987) explains that individuals differ in their proclivity to buy impulsively and that normative influences or judgments about the appropriateness of engaging in impulse buying moderate consumers' impulse buying behavior. If negative normative evaluations arise when a consumer is exposed to an impulse buying stimulus, the consumer's impulsive trait tendencies may be suppressed, and even a highly impulsive buyer will be less

likely to act on his or her buying urges (Rook and Fisher 1995). Therefore, it is suggested that impulse buying depends on an individual's tendency to buy impulsively as well as situational factors.

More recently, Rook and Gardner (1993) assert that affective antecedents are important factors in influencing impulse buying behaviors. For example, pleasurable moods encourage impulse buying because favorable associations from the pleasurable moods are readily recollected, and stimuli are evaluated more positively. Moreover, pleasurable moods drive consumers to buy impulsively to lengthen the pleasurable mood experience (Isen, Shalker, Clark and Karp 1978).

Although previous studies on impulse buying have identified various dimensions of impulse buying, most of them have failed to provide a comprehensive framework to explain impulse buying behaviors of consumers. To be exact, the earlier studies investigated only single or a few causal factors of impulse buying. No attempt has been made to provide a rather comprehensive model that includes all relevant factors to influence impulse buying behaviors. To address this problem, Beatty and Ferrell (1998) proposed a framework that models various situational and individual characteristics as antecedents of impulse buying behaviors. Beatty and Ferrell's (1998) model explains that impulse buying is caused by felt urge to buy impulsively. The felt urge, in turn, is influenced by such factors as positive and negative affects and in-store browsing activity. The affects and in-store browsing activity are also influenced by other situational factors such as time available and money available and individual difference variables such as shopping enjoyment and impulse buying tendency. Compared with earlier models and explanations on impulse buying, Beatty and Ferrell's (1998) model presents the most comprehensive explanation of the impulse buying process in the traditional shopping context. Therefore, we use Beatty and Ferrell's (1998) model as a base model in developing an

impulse buying model under the Internet shopping context. Figure 1 illustrates Beatty and Ferrell's (1998) model.

Insert Figure 1 here

Impulse Buying Behavior on the Internet

To explain impulse buying behavior on the Internet, factors that are relevant and important to the Internet shopping context should be considered together with the factors used in Beatty and Ferrell's (1998) model. Flow and perceived risk have been frequently cited as important factors that affect buying and navigational behaviors on the Internet. First, flow is defined as a mental state characterized by feelings of intrinsic enjoyment and loss of self-consciousness that can be mainly found in play or game (Csikszentmihalyi 1975). Internet surfers could experience this flow status while browsing on the Internet. Flow affects web user's navigation activities because of its positive subjective feelings and experiences it generates. These feelings and experiences, in turn, translate into behavioral traits like increased exploratory behaviors and increased learning activities (Hoffman and Novak 1996). Consumers who experience flow while shopping on the Internet may also exhibit similar behaviors as suffers do. They could experience positive feelings such as positive mood and satisfaction (Hoffman and Novak 1996). As such, flow could be positively related to positive affect. Two other consequences may be more exploratory behaviors and distortion of time perception (Hoffman and Novak 1996; Webster, Trevino and Ryan 1993). Distortion of time perception would reduce feelings of time pressure and increase time spent on the site. This is in line with findings that time availability leads to more search activities in a retail setting (Beatty and Smith 1987; Claxton, Fry and Portis 1974: Katona and Mueller 1955). Thus, individuals who

experience flow on the Internet would exhibit longer in-store browsing.

Second, important concept to be considered in explaining shopping behaviors on the Internet is perceived risk. It has been found that consumers' adoption of new retail innovations are influenced by perceived risk (Bettman 1979). Moreover, consumers perceive a higher level of risk with non-store purchases than store purchase decisions since they cannot physically inspect the products or collect the products immediately (Akaah and Korganonkar 1988). In addition, security concerns and inability to check products physically are often cited as major reasons why surfers do not shop on the Internet (Ernst and Young 1999). Therefore, consumers' perceived risk on Internet purchases must be considered when studying shopping behavior on the Internet. Perceived risk causes in-store shoppers to feel uncomfortable because it produces anxiety (Taylor 1974). The Internet-related risk issues could cause the Internet shoppers to feel anxiety as well. Thus, Internet shoppers who perceive higher risk may experience negative affect while surfing on the shopping site. It is also expected that Internet shoppers who perceive higher risks are less likely to browse the Internet shopping sites to reduce the uncomfortable feelings.

Since shopping on the Internet involves these two important characteristics that were not considered in Beatty and Ferrell's (1998) model, a model with these two variables could provide more accurate explanation on impulse buying behaviors on the Internet. In addition, three modifications are made to the Beatty and Ferrell's (1998) model in developing a model to explain impulse buying behaviors on the Internet. First, the shopping enjoyment component is removed from the model. This is because the flow concept is included in the proposed model. Flow can be regarded as a more general construct than shopping enjoyment. Shopping enjoyment is defined as the "pleasure one obtains in the shopping process" and is an experience that is enjoyed for its own sake, rather than the enjoyment derived from the product purchased

(Grayson 1999). Enjoyment comes from the process of shopping, not from the products bought. This shopping enjoyment can be regarded as an example of "enjoyment in an intrinsically rewarding experience" of flow in an activity, where the activity is shopping in this instance. Therefore, to avoid redundancy[1] and to maintain parsimony in the proposed model, flow will be used in place of shopping enjoyment in the proposed model. The flow concept can capture not only the shopping enjoyment but also the enjoyment from online browsing and surfing activities.

Second, the negative affect component is removed from the model. Based on the assumption that positive and negative affects are two separate dimensions, Beatty and Ferrell (1998) suggest that negative affect is negatively related to and positive affect is positively related to felt urge to buy impulsively. The model could be simplify if we treat affect as one dimensional concept with negative and positive as its end points (Cohen and Areni 1991). In impulse buying situation, the chance that both negative and positive affects can co-exist may not be high. Rather, it could be more plausible that either positive or negative affect exists alone. If this is the case, one affect measure would enough to explain the relationship. Also, Beatty and Ferrell (1998) could not find a significant link between negative affect and felt urge to buy impulsively in their study. Therefore, we propose to remove the negative affect component from the model. The remaining positive affect component will capture both negative and positive affective status in a unidimensional way.

Third, Beatty and Ferrell (1998) proposed a direct link between money available and impulse buying. Although the link was found to be significant, it is conceptually difficult to accept that impulse buying occurs without going through felt urge to buy impulsively. Impulse buying is defined as a sudden and instantaneous purchase with little or no planning, which

[1] Flow and shopping enjoyment showed a high correlation between them (.54, $p<.00$).

occurs *after* experiencing an urge to buy. Therefore, it is proposed that the influence of money available on impulse buying occurs through felt urge to buy impulsively. That is, impulse buying occurs after shoppers experience felt urge to buy impulsively. Money available influence felt urge to buy impulsively, not impulse buying directly. Figure 2 summarizes the relationships suggested in the proposed model of impulse buying behavior on the Internet.

Insert Figure 2 here

METHOD

Online Survey

Data was collected through online survey. Online survey was hosted on a local server and solicitation was made by posting survey invitation messages on popular newsgroups. Apart from posting messages to the various newsgroups, personal e-mails were also sent to Internet users who hosted their homepages on local Internet Service Providers.

During a month of data collection period, a total of 185 respondents replied to the online survey. Most of responses came from e-mail solicitation (81.6%). In total, 2,891 e-mails were disseminated. Out of this 102 e-mails were returned due to invalid addresses or inability of the e-mail system to send the mails. Of 2,789 effective e-mails sent out, 151 returned, yielding a response rate of 5.4%. Among 185 returned responses, 17 were discarded because of incomplete and invalid answers, resulting 168 valid responses.

The demographic profile of the respondents reflects typical demographical characteristics of the Internet users. That is, most of them were young (those who were under 30 years old were 73.8%) and there were more males (60.1%) than female.

Measures

Most measures used in this study were adopted from the scales used in Beatty and Ferrell's (1998) model. Impulse buying was measured by asking respondents to indicate whether they bought the goods in a "planned", "reminder" or "impulse" manner. A score of "3" was then given for impulse purchases, "2" for reminder purchases which involved less impulsiveness, and "1" for planned purchases (Beatty and Ferrell 1998; Stern 1962). Three items for felt urge to buy impulsively, three items for in-store browsing, four items for positive affect, three items for negative affect, four items for shopping enjoyment, three items for impulsive buying tendency, three items for money available, and one item for time available were adopted from the scales used by Beatty and Ferrell (1998). Some wordings were changed when necessary to fit into the Internet shopping context.

The scale for perceived risk was adapted from Jarvenpaa and Todd's (1997) study on consumers' reactions to electronic shopping on the World Wide Web. Five items represent economic, social, performance, personal and privacy risks involved in the Internet shopping. Flow was measured by the four-item scale developed by Trevino and Webster (1992). The original scale was developed to measure flow experience of using electronic mails. The wordings of the scale were modified to make them relevant to the Internet shopping context.

RESULTS

Reliability and Validity Assessment of Measures

The measurement properties of the items of the eleven constructs (nine from Beatty and Ferrell's (1998) model and two additional constructs) were validated by confirmatory factor analysis using AMOS 5. After the unidimensionality of each construct was assessed

individually, all measures were subsequently submitted to the overall measurement model. The fit measures of initial measurement model were as follows: χ^2_{576}=788.11 (p=.00), CFI=.94, TLI=.93, RMSEA=.05. The convergent validity of the individual scales was assessed by the estimated factor loadings. Following the suggestion by Anderson and Gerbing's (1988) two-stage process of measurement assessment, items with insignificant loadings or loadings less than the recommended cut-off level of 0.4 were deleted to improve the measurement model fit before moving on to test the structural model (Nunnally and Berstein 1994). Five items with insignificant loadings and three items with small values (i.e., loadings less than .4) were deleted from the scales. The final measurement model produced good overall fit results (χ^2_{324}=378.45 (p=.02), CFI=.98, TLI=.98, RMSEA=.03). The internal consistency of the final measurement models was assessed by composite reliabilities and average variance extracted (Fornell and Larcker 1981). All the reliabilities were greater than the recommended level of 0.7 (Nunnally and Berstein 1994) and the average variance extracted for each measure was greater than the recommended level of 0.5 (Baggozi and Yi 1988).

The discriminant validity of the measures was then assessed against the three conditions that were commonly considered as evidence of discriminant validity. First, the squared correlation estimates were compared with average variance extracted (Fornell and Larcker 1981). The average variance extracted was greater than the respective squared correlation estimates for all measures. Second, the confidence interval for each correlation estimate was examined (Gerbing and Anderson 1988). The 95% confidence interval for each correlation estimate did not include the value of 1. Third, χ^2 difference test was performed between a model that constrained the correlation equal to 1 and a model that did not place such a constraint (Gerbing and Anderson 1988). For each pair of constructs, the χ^2 value for the constrained model was significantly greater than the χ^2 value for the unconstrained model.

All these results supported the discriminant validity of the measures.

Model Estimation

The structural model proposed in Figure 2 was estimated using AMOS 5 with the maximum likelihood method. The covariance matrix was used as input. The results are summarized in Figure 3. The AMOS output shows that the chi-square statistic of the proposed model is not significant (χ^2_{193}=224.02, p>.05). The additional goodness-of-fit measures indicate an excellent level of fit to the data as well (CFI=.99, TLI=.98, RMSEA=.03). Hence, we can conclude that the multiple goodness-of-fit indices validated our proposed model as a good representation of the hypothesized relationships among the constructs.

Insert Figure 3 here

Among four paths hypothesized among endogenous variables in the model, only the path from store-site browsing to positive affect turn out to be insignificant (β=.002; n.s.). Other paths are significant as predicted. As for the effects of exogenous, three paths among ten hypothesized paths are insignificant. More detailed results are as follows. Flow has a positive and significant effect on browsing (γ=.41; t=5.10) and on affect (γ=.31; t=3.27) as predicted. Perceived risk has a negative and significant effect on affect (γ=-.29; t=3.72), but not on browsing (γ=.08; n.s.). Time available has a positive and significant effect on browsing (γ=.45; t=6.04) as well as on affect (γ=.15; t=1.68) as predicted. Money available has a positive and significant effect on affect (γ=-.30; t=3.35), but not on felt urge to buy impulsively (γ=-.10; n.s.). Impulse buying tendency has a positive and significant effect on felt urge to buy impulsively (γ=-.29; t=3.69), but not on browsing (γ=-.09; n.s.). Explanations on these findings are discussed in the following section.

DISCUSSION

This study attempts to understand the primary drivers behind impulse buying behaviors on the Internet. Based on Beatty and Ferrell's (1998) impulse buying model that was developed to explain impulse buying under traditional shopping context, a modified model was proposed and tested using Internet shoppers in this study. Key findings from the tested model and relevant explanations are discussed in the following.

First, we could not observe a significant link between store-site browsing and positive affect from the results. In Beatty and Ferrell's study, the link was significant. There are several reasons why in-store browsing does not lead to positive affect among Internet shoppers, but leads to positive affect among traditional shoppers. One reason could be because most surfers use the Internet mainly to search for information or engage in dispassionate comparison of prices and features (Indrajit 2000). They are more interested in acquiring product information, and not fanciful features such as interactive multimedia presentations that e-retailers embed in their shopping sites (Sterne 1999). That is, surfers partake in less-emotional browsing. Another reason could be because customer service on the Internet is limited and unresponsive. The current technology is not able to provide immediate response to customers' enquiries (Riedman and Cuneo 1999) and simple enquiries that can be easily answered by a sales representative in the traditional shopping context are not easily solved online. This lack of human touch reinforces the store site browsing activity as less-emotional activity. Thus, the influence of store-site browsing on positive affect becomes insignificant.

Second, flow showed strong positive effects on site browsing and affect. Considering the fact that shopping enjoyment in the Beatty and Ferrell's model influences in-store browsing only, flow seems to be an important and more relevant concept than shopping enjoyment in explaining impulse buying on the Internet.

Third, perceived risk causes less positive affect among Internet shoppers as predicted. However, it does not lead to less browsing. We expected that Internet shoppers with high perceived risk would not browse much because of privacy concern and inability to physically check product. On the other hand, it could be possible that Internet shoppers may increase browsing to acquire more information to reduce the perceived risk. These two opposite patterns could offset the effect of perceived risk on browsing activity.

Fourth, a shopper's tendency to engage in impulse buying directly affects the number of urges experienced to buy impulsively on the Internet. However, impulse buying tendency does not lead to more browsing for Internet shoppers. This could be because Internet shoppers with high impulse buying tendencies may not find it comfortable to use the Web. Shoppers with high impulse buying tendency tend to be more spontaneous. However, the procedural aspect of the Internet browsing may not be easy for shoppers to browse. Thus, impulse buying tendency produces no effect on browsing activities for the Internet shoppers.

Beatty and Ferrell's (1998) model was also estimated for a comparison purpose. The estimation results are summarized in Figure 4. The chi-square statistic of the model is significant (χ^2_{195}=248.37, p<.01). However, the additional goodness-of-fit measures indicate an excellent level of fit to the data (CFI=.97, TLI=.97, RMSEA=.04). The comparison of fit measures between the proposed model and Beatty and Ferrell's model reveals that the proposed model has better fit measures than the Beatty and Ferrell's model.

Although the overall fit index shows a good fit in the Beatty and Ferrell's (1998) model, lots of paths in the model turn out to be insignificant. This indicates that the underlying mechanism of impulse buying behavior is somewhat different in the Internet shopping context than in the traditional shopping context. Some noteworthy patterns are briefly summarized in the following.

Insert Figure 4 here

First, the paths from time available to negative affect ((γ=-.08; n.s.), from money available to negative affect ((γ=.03; n.s.), and negative affect to felt urge to buy impulsively ((β=.05; n.s.) turn out to be insignificant. These results support the decision to drop negative affect from the proposed model. Second, the effect of shopping enjoyment is significant on in-store browsing (γ=.37; t=4.80), but not on positive affect (γ=-.08; n.s.). This is an opposite of Beatty and Ferrell's (1998) result. This may also suggest inappropriateness of this construct in the Internet shopping context. In addition, the direct link between money available and impulse buying turns out to be insignificant (γ=-.01; n.s.). Other insignificant paths (i.e., from impulse buying tendency to browsing and from browsing to affect) mirror the pattern of the proposed model.

This research has the traditional limitations associated with survey research, such as self-selection error, measurement error and sampling error (Dillman 2000). Self-selection may introduce systematic bias into the survey as groups that decided not to participate may differ in ways from those who have participated. Non-probabilistic sampling or coverage error may also reduce the generalizability of the survey (Pitkow and Kehoe 1995).

This study investigates only the main effects of the variables examined in the model because impulse buying is a relatively new phenomenon on the Internet, and it is more appropriate to establish a good base model from which important main effects can be examined first. However, future studies should examine the interaction effects between the constructs. For example, the interaction between flow and time perception is interesting. Other possible interactions between the constructs can also be tested. Given the importance of interactions in explaining behaviors (Punj and Stewart 1983), this will make an interesting future research

topic.

Figure 1. Beatty &Ferrell's (1998) Model of Impulse Buying Behaviors

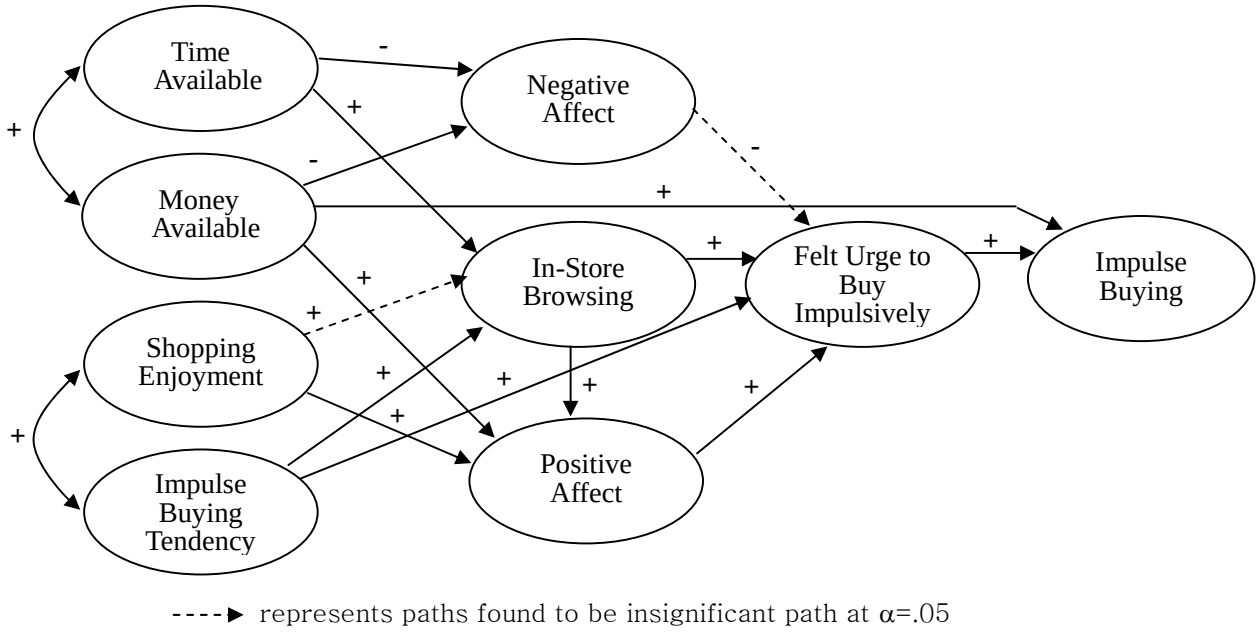


Figure 2. Proposed Model of Impulse Buying Behaviors on the Internet

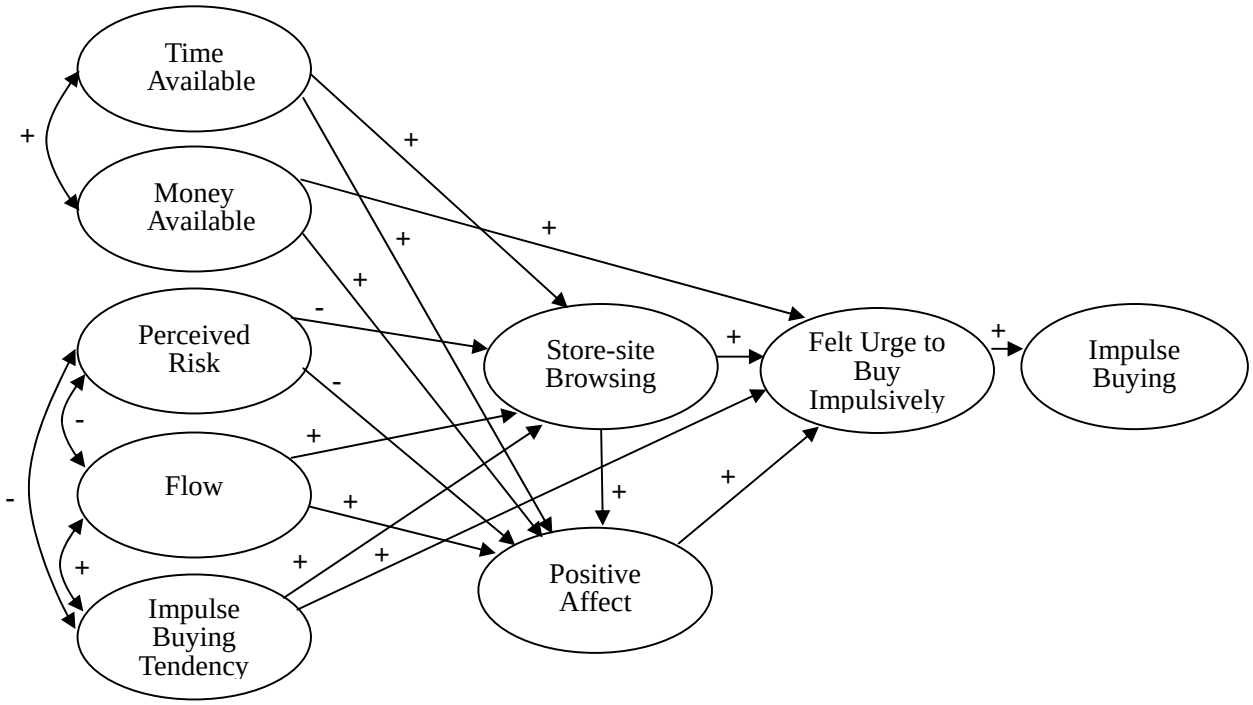


Figure 3. Results of Structural Model of the Proposed Model

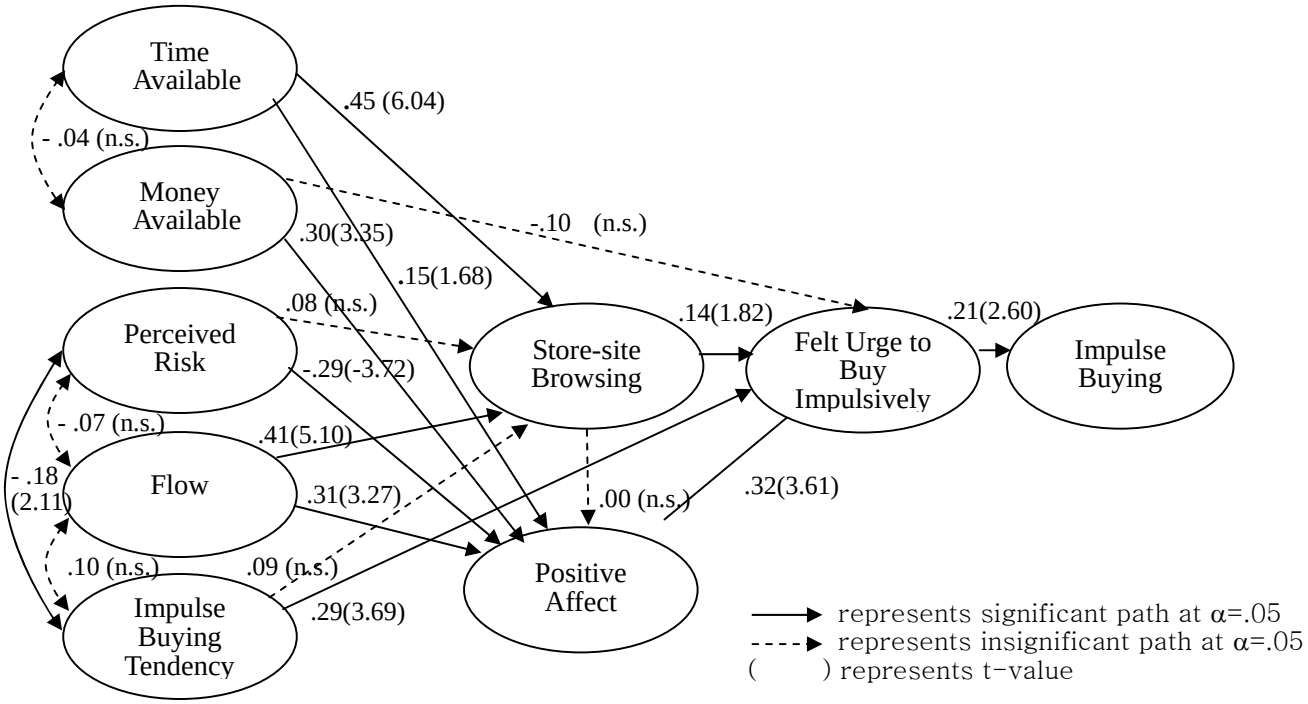
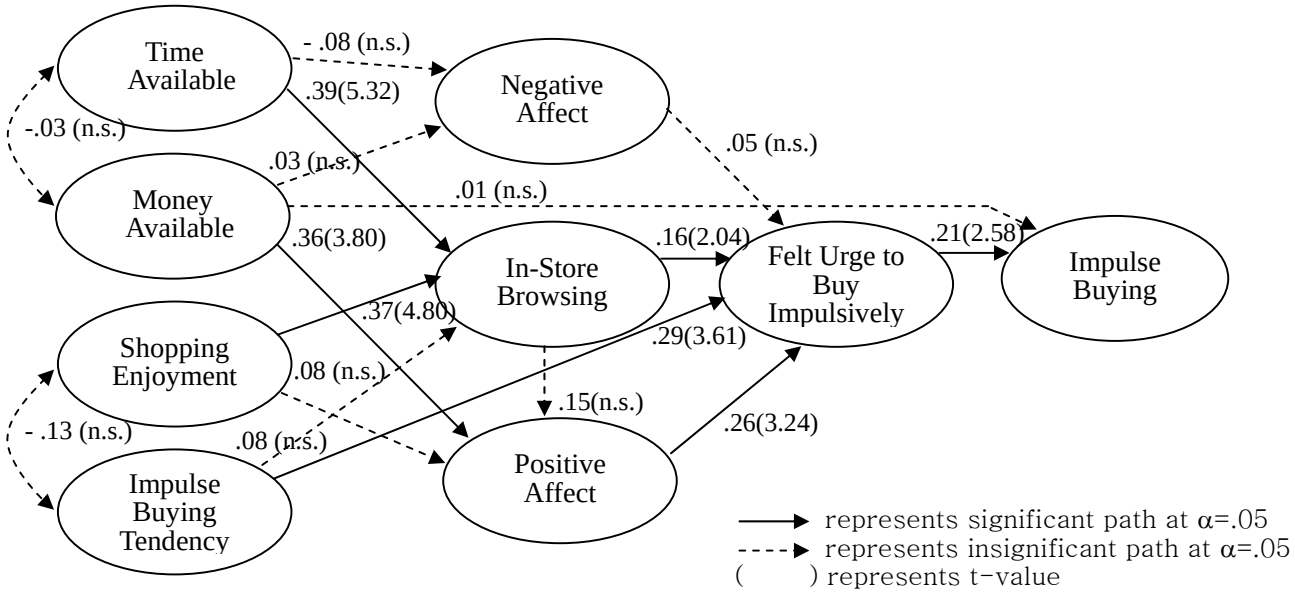


Figure 4. Results of Structural Model of Beatty & Ferrell's Model in the Internet Shopping Context



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